SOME SERIOUS AND FUNDAMENTAL QUESTIONS ON PHYSICS ABOUT WHICH WE ALL SHOULD THINK

1. What is the initial state of universe?

String Theory

2. What are strings?
3. Are they eternal entities?
4. If not, then from which are they made?
5. Are they have mass?
6. If the strings are the vibrating entities, then in which medium they vibrate?
7. What is the source of their energy?
8. What are the Branes?
9. What is their structure?
10. Are they eternal?
11. If not, then how are they made?

Eypyrotic universe

12. What is the mechanism of Branes collision?
13. Which field is responsible for attraction and repulsion of Branes?
14. This is a cyclic process, then will there not be any depletion of energy in this process? If yes, then this cycle will end in future and it must had started in past.
15. Then, what is the reason of that beginning? If there were mass and charge already in them, then why universe not be created by itself? Why the collision is needed?

Big bounce

16. When universe collapsed completely due to gravity, then which force is responsible for Big bang or Big bounce? How did this force originate?
17. Did time cease to zero at Big Bounce?
18. If yes, how did it start again?
19. What was the form of matter at that time?

Cyclic universe

20. What is the cause of very first Big Bang?

21. How will compression start after the completion of expansion, when gravitational force is not predominant?
22. How the kinetic energy is continuously increasing in successive evolution of the universe? Was kinetic energy zero in the beginning?

Bubble universe

23. What is the difference between negative and positive energy?
24. What is the mechanism of formation of negative and positive energy from nothing?
25. How does the Laws of Physics originate?

Big bang theory

26. What was the form of matter before Big bang? How did that matter form?
27. Which force infinitely condensed that material? What was the source of that force?
28. How is it possible to have any type of exchange process in zero volume?
29. Modern science considers the exchange of certain mediator particles for the cause of all the fundamental forces, then which particles were exchanged in that infinitely dense material?
30. Which energy or force is responsible to do that great explosion, even in the presence of such a most strong force?
31. What are causes the inflation?
32. If inflation is due to anti-gravity, then what causes gravity to act as anti-gravity?
33. When and how inflation field created and what is its source?
34. How does symmetry break and what is its cause?
35. Is there any other force in universe responsible for symmetry breaking?
36. What is the mechanism of separation of four fundamental forces?
37. How did they originate?
38. In which form, energy was present before 10^{-43} second?
39. If it was in the form of photons, then electromagnetic force must be present at that time, but no one accept this, why?
40. Gravitational force is produced firstly from unified force, while Einstein proposed that gravitational force is not a force but only curvature of space-time, then what exactly is gravitational force?

Time

41. What is time?

42. How does time originate?

43. How does it begin at the time of Big Bang?

44. Is the time an illusion or some real entity?

45. What is its role in the universe?

46. What we mean by negative and zero time?

47. Unless we know its true nature, how can we say that it will be negative or zero?

Space

48. What is space?

49. What is its role in the universe?

50. Scientists consider and show space like a sheet or net, but nobody knows what really its structure is?

51. What is the mechanism of its formation?

52. Is space a real thing, which bends by a massive object, in which ripples are produced and which expands and distorts?

53. What are its contents?

54. Why does space interact with massive and charged objects?

55. What is the relation between space and mass/charge?

56. Is there availability of mass and charge in space?

57. We talk of space-time singularity but what is relation between space and time and why?

58. If space is an imaginary thing, then its expansion, distortion, bending and singularity also should be imaginary, then how can we understand the real world by imaginary things?

Red Shift and CMB

59. Are the EM waves are attached with space?

60. If yes then wave will not have its own speed, but it will travel with the speed of space, which will be Hubble speed in present time.

61. At the time of Big Bang, all energy will travel with space (10^{28} m/s). Then, how can energy be condensed to form the celestial bodies?

62. Are all celestial bodies and particles also attached with space? If yes, then they will never combine with one another and they will travel with speed of space only.

63. If EM wave isn't attached with space, then what is the cause of redshift?
64. Expansion of space can only affect waves not molecules, atoms etc., why?
65. Why expansion of space can only affect galaxies and not the stars, planets & satellites?
66. CMB radiation, which was released before 13 Billion years, then how can it be received by us now, while universe is expanding with an accelerated rate?
67. If this radiation is continuously received by us, then its temperature cannot be same everywhere in the universe.

Elementary particles

68. How do Graviton or other mediator particles form?
69. How do Photons and elemantary particles form in the primary stage of the universe?
70. What is their structure?
71. Why Gravitation force is weakest force?

Mass

72. What exactly the Mass is?
73. How does property of Mass originate?
74. If answer is Higgs field, then what is the cause of mass of its' quanta (Higgs Boson ~125 GeV/c^2)?
75. If we say that this mass is created from energy at the time of Big Bang, then question arises that if a very massive particle (Higgs boson) can be produced by that energy, then why an electron of exceedingly small mass can't be produced from that energy?

Charge

76. What is the fundamental cause of showing property of charge by matter?
77. If it is created from energy (pair production), then does it not mean that photon has same content as of electron and positron?
78. What are those fundamental entities, from which property of charge originates?
79. What is the link between energy and charge?
80. If Peter Higgs imagined Higgs field for fundamental property like mass, then why I should not imagine another field for fundamental property like electric charge?

81. Also, for different types of charge (colour charge…), there should be different types of field. Will you accept it?
82. What is the difference between the contents of opposite charged particles?
83. Why do virtual photons exchange between the charges, when these are massless and have no electric charge?
84. Why these photons cannot be seen or detected?
85. Why they exist for a short time?
86. Which force is responsible for this exchange?
87. What does an electric field consist of?
88. How charged particle creates an electric field?
89. What is the form of vacuum energy and how does it originate?
90. What is the mechanism of origin of field particle from vacuum energy?
91. What is the mechanism of attraction of two opposite charged particles through the exchange of field particles?

Energy and Dark Energy

92. What is energy?
93. How does it originate?
94. How does mass originate from energy?
95. What is its' mechanism?
96. What is the mechanism of transformation of one form of energy to another?
97. What is the dark matter and how & from which is it made?
98. What is the dark energy and how does it create?
99. What is the relation between dark matter and dark energy?
100. What is the mechanism of holding the stars in any glaxy by their gelectic centre?